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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
KUMAR, PANKAJ

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/769,688	MOCHIZUKI, TAKASHI	
	Examiner	Art Unit	
	Pankaj Kumar	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3 and 4* is/are allowed.

6)☒ Claim(s) *1,2 and 5-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 1/25/00 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to the claims have been considered and are moot in view of the new grounds of rejection.

Response to Amendment

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley USPN 6,262,637 in view of Katayama USPN 6,356,746 and Dal Farra USPN 6,178,162. Here is how the references teach the claims:

4. As per claim 1, Bradley teaches a transmission apparatus comprising: filter means for reducing leakage power outside a transmission signal band (Bradley fig. 2: "transmit band"), said adjustable (not in Bradley but would be obvious as explained below) filter means having a first attenuation amount (Bradley fig. 2: 36) more than a predetermined amount (Bradley fig. 2: top line of "transmit band") or a second attenuation amount not more than the predetermined amount selectively set in a range higher than a transmission signal band; modulation means for modulating the transmission signal output from said filter means (Bradley col. 1 lines 18-19: "modulated transmit signal generated by the transmitter"; col. 4 lines 20-25); and control means for setting one of the first and second attenuation amounts in said adjustable filter means in

accordance with a use situation of a band adjacent to the transmission signal band (Bradley col. 1 lines 55-60: "In the example shown, band-pass filters are configured such that the high-frequency stop band of the band-pass filter 30 overlaps the pass-band of the band-pass filter 32 and the low-frequency stop band of the band-pass filter 32 overlaps the pass-band of the band-pass filter 30.").

5. Bradley does not teach an adjustable filter. Katayama teaches adjustable filters (Katayama fig. 1: 9a, 10 being adjust by filter control signal 19).

6. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the adjustable filter as recited by the instant claims, because the combined teaching of Bradley with Katayama suggest an adjustable filter as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bradley with Katayama because Bradley suggests configuring a filter (something broad) in general and Katayama suggests the beneficial use of adjusting or configuring the filter periodically (such as having a feedback system to have a better quality system) in the analogous art of filters.

7. Bradley does not teach selecting, during operation, between first and second attenuation amounts. Dal Farra teaches selecting, during operation, between first and second attenuation amounts (Dal Farra col. 8 lines 45-46: "selecting either one of said first and second attenuation values"; this occurs during the method claimed in Dal Farra and hence during operation). Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at the selecting, during operation, between first and second attenuation amounts as recited by the instant claims, because the combined teaching of Bradley with Dal Farra suggest

selecting, during operation, between first and second attenuation amounts as recited by the instant claims. Furthermore, one of ordinary skill in the art, would have been motivated to combine the teachings of Bradley with Dal Farra because Bradley suggests attenuation (something broad) in general and B et al. suggests the beneficial use of selecting between two attenuation amounts such as comparing attenuation that inhibits echo in the analogous art of signal processing.

8. As per claim 2: An apparatus according to claim 1, wherein said adjustable filter means comprises a first low-pass filter having the first attenuation amount (Bradley fig. 2: 36), and a second low-pass filter having the second attenuation amount (Bradley fig. 2: 38), and said control means selects one of said first and second low-pass filters in accordance with the use situation of the band adjacent to the transmission signal band. This is not in Bradley. Katayama 6356746 teaches this with figure 9: 18, 19, 42, 70, 74, 76, 78, 75, 77, 79, fig. 10: 18, 19, 42, 85, 87, 89 and also col. 5 lines 45-55 paragraph 29: "an electric field strength holding means for holding signal levels detected by the electric field strength detecting means under a condition that the I low-pass filter and the Q low-pass filter are set to have at least two different cut-off frequencies; an adjacent wave detecting means for detecting a signal level of the adjacent wave based on an output of the electric field strength holding means; and a baseband filter controlling means for variably controlling cut-off frequencies of the I low-pass filter and the Q low-pass filter according to an output signal of the adjacent wave detecting means." It would have been obvious to one skilled in the art at the time of the invention to modify Bradley with Katayama. One would have been motivated to do so since Katayama teaches to reduce the influence of the adjacent waves in col. 6 lines 59-60.

9. As per claim 5: An apparatus according to claim 2, wherein said apparatus further comprises switch means for selecting one of said first and second low-pass filters (Katayama fig. 9: 74, 76, 78, 75, 77, 79, 42; fig. 10: 85, 87, 89, 42), and said control means controls said switch means to extract one of outputs from said first and second low-pass filters as a transmission signal (Katayama fig. 9: 18, 19, output of 73; fig. 10: 18, 19, output of 83).

10. As per claim 6: An apparatus according to claim 2, wherein when said first low-pass filter is selected, power supply to said second low-pass filter is stopped, and when said second low-pass filter is selected, power supply to said first low-pass filter is stopped. This is not in Bradley or Katayana. It is common knowledge to rearrange parts of an invention and in this, to rearrange from parallel filters to series filters. It would have been obvious to one skilled in the art at the time of the invention to modify Katayama's fig. 9 such that the filters with their switches are rearranged to be in series in order to supply power to the selected filters and not to the nonselected filters. One would have been motivated to do so in order for efficiency to conserve power.

11. As per claim 7: An apparatus according to claim 1, wherein said filter means, modulation means, and control means are arranged in one of a mobile station and a base station of a mobile communication system (Bradley col. 1 line 14: "cellular or cordless telephone"; col. 6 lines 8-9: " ... PCS device, cellular telephone or other transmit/receive apparatus ...").

12. As per claim 8: An apparatus according to claim 7. Bradley does not teach the remainder of claim 8. Katayama teaches the remainder of claim 8 wherein said apparatus further comprises

extraction means for extracting information related to the use situation of the band adjacent to the transmission signal band from a reception signal (Katayama col. 3 lines 25-26: "in response to a signal level of the adjacent wave"), and said control means performs operation of setting the first and second attenuation amounts on the basis of an output from said extraction means (Katayama col. 5 lines 44-55: "an electric field strength holding means for holding signal levels detected by the electric field strength detecting means under a condition that the I low-pass filter and the Q low-pass filter are set to have at least two different cut-off frequencies; an adjacent wave detecting means for detecting a signal level of the adjacent wave based on an output of the electric field strength holding means; and a baseband filter controlling means for variably controlling cut-off frequencies of the I low-pass filter and the Q low-pass filter according to an output signal of the adjacent wave detecting means."). It would have been obvious to one skilled in the art at the time of the invention to modify Bradley with Katayama. One would have been motivated to do so since Katayama teaches to reduce the influence of the adjacent waves in col. 6 lines 59-60.

13. As per claim 9: An apparatus according to claim 7. Bradley does not teach the remainder of claim 9. Katayama teaches the remainder of claim 9 wherein said apparatus further comprises monitor means for monitoring the use situation of the band adjacent to the transmission signal band from a reception signal, and said control means performs operation of setting the first and second attenuation amounts on the basis of an output from said monitor means (Katayama col. 5 lines 44-55: "an electric field strength holding means for holding signal levels detected by the electric field strength detecting means under a condition that the I low-pass filter and the Q low-pass filter are set to have at least two different cut-off frequencies; an adjacent wave detecting

means for detecting a signal level of the adjacent wave based on an output of the electric field strength holding means; and a baseband filter controlling means for variably controlling cut-off frequencies of the I low-pass filter and the Q low-pass filter according to an output signal of the adjacent wave detecting means."). It would have been obvious to one skilled in the art at the time of the invention to modify Bradley with Katayama. One would have been motivated to do so since Katayama teaches to reduce the influence of the adjacent waves in col. 6 lines 59-60.

14. As per claim 10: An apparatus according to claim 7, wherein when the band adjacent to the transmission signal band is used in an adjacent/superposing system, said control means sets the first attenuation amount in said filter means (Bradley paragraph 9: "The bandwidth of the portions of the spectrum assigned to the transmit signal and the receive signal are about 3% of the carrier frequency, i.e., 60 MHz. This means that the band-pass filters 30 and 32 are required to have an extremely sharp roll-off."), and when the band adjacent to the transmission signal band is not used in the adjacent/superposing system, said control means sets the second attenuation amount in said filter means (This is not in Bradley. Katayana teaches this with the following: paragraph 26: "In practice, in the event that the adjacent wave has been detected in the setting based on the above-mentioned advanced radio paging system standard (RCR STD-43), if the low-frequency cut-off frequencies of the first I low-pass filter 9a and the first Q low-pass filter 10a are narrowed from 10 KHz to 8 KHz, the influence of the adjacent wave can be reduced ... In the event that the adjacent wave has not been detected, if the low-frequency cut-off frequencies of the first I low-pass filter 9a and the first Q low-pass filter 10a are widened from 8 KHz to 10 KHz"; paragraph 47."In contrast, if it has been decided that the adjacent waves are not contained, the baseband filter controlling means 18 outputs the filter controlling signal 19

based on the output signal from the adjacent wave detecting means 17 to raise the cut-off frequencies of the first I low-pass filter 9a and the first Q low-pass filter 10a" It would have been obvious to one skilled in the art at the time of the invention to modify to modify Bradley with Katayama. One would have been motivated to do so in order to achieve the frequency offset tolerance advantage pointed out in Katayama in paragraph 47 : "if it has been decided that the adjacent waves are not contained, the baseband filter controlling means 18 outputs the filter controlling signal 19 based on the output signal from the adjacent wave detecting means 17 to raise the cut-off frequencies of the first I low-pass filter 9a and the first Q low-pass filter 10a, whereby tolerance for the frequency offset of the oscillation frequency of the first local oscillator 4 from the carrier frequency of the modulated signal 3 to be received can be improved.").

Allowable Subject Matter

15. Claims 3-4 are allowed. See prior action(s) for details.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (571) 272-3011. The examiner can normally be reached on Mon, Tues, Thurs and Fri after 8AM to after 6:30PM.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pankaj Kumar
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PK